

## View dendrogram

Smart II oligo -||-5'UTR

**hDAP10c** GGAGGAGGACAGCCGGCAGGAGTGGACCTTCACCTGTATGACTTTGACAACAACGGCAA  
**mDAP10c\_coding** GGAGGAGGACAGCCGGCAAGAGTGGACTTTCACTCTATATGACTTCGACAACAATGGCAA  
 \*\*\*\*\*

**FIG. 1-1**

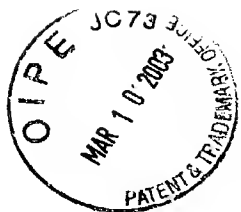


FIGURE 1-2

hDAP10c GGTCAACCCGAGAGGACATCACCAGCTTGCTGCACACCATCTATGAGGTGGTGGACTCCTC  
mDAP10c\_coding AGTGACCCGTGAGGACATTACCAGCTTGCTGCATACCATCTATGAAGTGGTTGACTCCTC  
\* \* \* \* \*

hDAP10c TGTCAACCACTCCCCAACATCCAGCAAGATGCTGCGGGTAAAGCTCACCGTGGCCCCCGA  
mDAP10c\_coding TGTGAACCATTCCCCCACATCAAGCAAGACACTGCGGGTGAAGCTCACCGTGGCTCCTGA  
\* \* \* \* \*

hDAP10c TGGCAGCCAGAGCAAGAGGAGCGTCCTTGTCATCAGGCTGACCTGCAGAGCGCAAGGCC  
mDAP10c\_coding CGGGAGCCAGAGTAAGAGGAGCGTCCTTTTCAACCATACCGATCTGCAGAGCACAAGGCC  
\* \* \* \* \*

hDAP10c CCGAGCAGAGACCAAGCCCACTGAGGACCTGCGGAGCTGGGAGAAGAAGCAGCGAGCCCC  
mDAP10c\_coding CCGAGCAGACACCAAAACCCGCTGAGGAGCTGCGTGGCTGGGAGAAGAAGCAGCGAGCCCC  
\* \* \* \* \*

hDAP10c GCTCAGGTTCAGGGTGACAGCCGCTGGAGCAGTCTGGCTGCTACCACCATTCGCTAGA  
mDAP10c\_coding ACTCAGGTTCAGGGTGACAGCCACCTGGAGCAGCCAGACTGCTACCACCATTCGCTGGA  
\* \* \* \* \*

hDAP10c TGAGAACATCGAGAGGAGAAACCACTACTTAGATCTCGCCGGGATAGAAAACCTACACGTC  
mDAP10c\_coding TGAGAACATTGAGAGGAGAAACCACTACCTAGACCTGGCGGGGATAGAGAACCTACACGTC  
\* \* \* \* \*

hDAP10c CCAATTTGGGCCTGGCTCCCCCTTCGGTGGCCAGAAAGTCAGAACTGCCCCCGCACCTC  
mDAP10c\_coding TCAGTTTGGACCGGGATCCCCCTTCGGTGGCCAGAAAGTCAGAGCTGCCCCCTCGAATCTC  
\* \* \* \* \*

hDAP10c CAATCCCCTCGATCTCGCTCCCATGAGCCGGAAGCCATCCACATCCCACACCGAAAGCC  
mDAP10c\_coding CAACCCCACTCGCTCTCGCTCCACGAGCCAGAAAGCTGCCCACATCCCACACCGGAGGCC  
\* \* \* \* \*

hDAP10c CCAAGGCGTGGACCCGGCTCCTTCCACTCCTTGACACCCCAATCGCCAAGGTCTCAGA  
mDAP10c\_coding CCAAGGTGTGGACCCAGGCTCCTTCCACCTCCTTGACACCCCAATTCGCAAGGCATCAGA  
\* \* \* \* \*

hDAP10c GCTCCAGCAACGGCTCCGGGGCACCCAGGACGGGAGCAAGCACTTTGTGAGGTCCCCCAA  
mDAP10c\_coding GCTCCAGCAACGGCTCCGGGGCACTCAGGATGGGAGCAAGCACTTTGTGAGGTCCCCCAA  
\* \* \* \* \*

hDAP10c GGCCCAGGGCAAGAGTGTGGGTGTGGGCCACGTGGCCAGAGGGGCAAGAAACAAGCCCCC  
mDAP10c\_coding GGCCCAGGGCAAGAACATGGGTATGGGGCACGGGGCCAGAGGTGCAAGAAGCAAGCCTCC  
\* \* \* \* \*

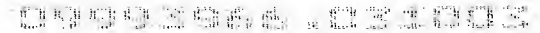
hDAP10c TCTGGGACCCGCCATCCCTGCGGTGTCCCCCTCCGCCCACCTGGCTGCCAGCCCGGCCCT  
mDAP10c\_coding ACTGGTACCCACCACCATACTGTCTCCCCCTCTGCCCATCTGGCCACCAGCCAGCCCT  
\* \* \* \* \*

hDAP10c CCTCCCCCTCCCTAGCCCCCTCGGGCACAAGAAGCACAAGCACCGAGCCAAGGAGAGCCA  
mDAP10c\_coding TCTCCCCACCCTGGCACCCCTGGGGCACAAGAAACACAAGCATCGAGCCAAGGAGAGCCA

FIG. 1-2

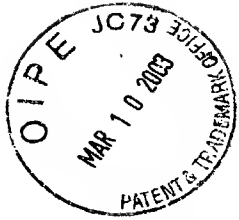


**FIG. 1-3**



View dendrogram

FIG. 2



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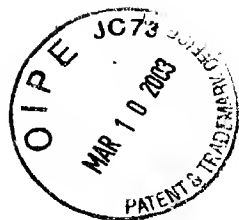
GAATTCGCCCTTCTAATACGACTCACTATAGGGCAAGCAGTGGTAACAACGCAGAGTACGCGGGGAGTCGG  
GCCGCGGCGACGGCGGCAGGAGCGCGTCCCCGGCGCCGCTCGGGCTCCGCTCGGGCTCGGGGGCTGCTTCGG  
GAGGAGGAGAGCCAAGGGAGGCGCCAGGCCCGCGGGCCGGGCGCATGGCTTAGGGACGCTCCCGGCCGCCG  
CAGCCCCAGCATGGGGAAACTTCACTCCAAGCCGGCCGCCGTGTGCAAGCGCAGGGAGAGCCCCGGAAGGTG  
ACAGCTTCGCCGTGAGCGCTGCCTGGGCTCGGAAGGGCATCGAGGAGTGGATCGGGAGACAGCGCTGCCCG  
GGCGGTGTCTCGGGACCCCCGACAGCTGCGGTTGGCGGGCACCATAGGCCGAAGCACC CGGGAGCTCGTGGG  
CGACGTGTTGAGAGACACGCTCAGCGAGGAAGAGGAGGACGACTTTCGGCTGGAAGTGGCCCTGCCTCCTG  
AGAAGACTGACGGGCTGGGCAGCGGAGATGAGAAGAAGATGGAGAGAGTGAGCGAACCTGCCAGGCTCC  
AAGAAGCAGCTGAAGTTTGAAGAGCTCCAGTGCGACGTGTCCATGGAGGAGGACAGCCGGCAGGAGTGGAC  
CTTCACCCCTGTATGACTTTGACAAACAACGGCAAGGTCACCCGAGAGGACATCACCAGCTTGCTGCACACCA  
TCTATGAGGTGGTGGACTCCTCTGTCAACCCTCCCCAACATCCAGCAAGATGCTGCGGGTAAAGCTCACC  
GTGGCCCCCGATGGCAGCCAGAGCAAGAGGAGCGTCTTGTCAATCAGGCTGACCTGCAGAGCGCAAGGCC  
CCGAGCAGAGACCAAGCCCACTGAGGACCTGCGGAGCTGGGAGAAGAAGCAGCGAGCCCCGCTCAGGTTCC  
AGGGTGACAGCCGCTGGAGCAGTCTGGCTGCTACCACCATTCGCTAGATGAGAACATCGAGAGGAGAAAC  
CACTACTTAGATCTCGCCGGGATAGAAAACACACGTCCCAATTTGGGCTGGCTCCCCCTTCCGTGGCCCA  
GAAGTCAGAACTGCCCCCCCCGCACCTCCAATCCCACTCGATCTCGCTCCCATGAGCCGGAAGCCATCCACA  
TCCCCACACCGAAAGCCCCAAGGCGTGGACCCGGCTTCCTTCCACTTCCTTGACACCCCAATCGCCAAAGGT  
TCAGAGCTCCAGCAACGGCTCCGGGGCACCAGGACGGGAGCAAGCACTTTGTGAGGTCCCCCAAGGCCA  
GGGCAAGAGTGTGGGTGTGGGCCACGTGGCCAGAGGGGCAAGAAACAAGCCCCCTCTGGGACCCGCCATCC  
CTGCGGTGTCCCCCTCCGCCACCTGGCTGCCAGCCCGCCCTCCTCCCCCTCCCTAGCCCCCTCGGGCAC  
AAGAAGCACAAGCAGCCAGGCAAGGAGAGCCAGCAGGGCTGCCGGGGCCTGCAGGCACCACTGGCCTCAGG  
TGGCCCTGTCTGGGGCGGGAGCACCTGCGGGAGCTGCCCGCTTGGTGGTGTATGAGAGCCAGGCCGGGC  
AGCCGGTCCAGAGACATGAGCACCACCACCACCATGAACATCACCACCATACCACCACTTCTACCAGACA  
TAGAGCCCCCTCCCCAGGGCCCCACCTGCCATATGAAGGACCCACCCCCGACACCACAAGGCATTATATAT  
TCTATTAATTATTGTTATTATGATGATTATTGTTATTAATAATTATTGTTACTCCACTAATATTTAGCTAG  
CCTACATGTAGAAGATCTATGGAAACACAGAACTAACTTTTATTTATATGTTAAAAA  
AAAAAGCGGCCGC

FIG. 3

SEQ. ID. NO.: 6

ATGGGGAAACTTCACTCGAAGCCGGCCGCCGTGTGCAAGCGCAGGGAGAGCCCCGGAAGGTGACAGCTTTG  
CTGTAAGCGCTGCTTGGGCAAGGAAAGGCATCGAGGAGTGGATCGGGAGGCAGCGCTGTCCAGGCAGCGT  
CTCAGGACCCCCGTCAGCTGAGATTGGCAGGCACTGTTGGTCGAGGCACTCGGGAACCTCGTGGGTGACACT  
TCTAGAGAGGCTCTCGGTGAGGAGGACGAGGACGACTTCCCCCTAGAAGTGGCCCTGCCGCCTGAGAAGA  
TCGACAGCCTAGGTAGTGAGATGAGAAGAGAATGGAGAGACTGAGCGAACCTGGCCAGGCCTCCAAGAA  
GCAGCTCAAGTTTGAAGAGCTACAGTGTGATGTCTCTGTGGAGGAGGACAGCCGGCAAGAGTGGACTTTC  
ACTCTATATGACTTCGACAACAATGGCAAAGTGACCCGTGAGGACATTACCAGCTTGCTGCATACCATCT  
ATGAAGTGGTTGACTCCTCTGTGAACCATTCCCCCACATCAAGCAAGACACTGCGGGTGAAGCTCACCGT  
GGCTCCTGACGGGAGCCAGAGTAAGAGGAGCGTCTTTTCAACCATAACCGATCTGCAGAGCACAAAGGCC  
CGAGCAGACACCAAAACCCGCTGAGGAGCTGCGTGGCTGGGAGAAGAAGCAGCGAGCCCCACTCAGGTTCC  
AGGGTGACAGCCACCTGGAGCAGCCAGACTGCTACCACCATTCGCTGGATGAGAACATTGAGAGGAGAAA  
CCACTACCTAGACCTGGCGGGATAGAGAACTACACGTCTCAGTTTGGACCGGGATCCCCCTTCGGTGGCC  
CAGAAGTCAGAGCTGCCCCCTCGAATCTCCAACCCCACTCGCTCTCGCTCCACGAGCCAGAAGCTGCCC  
ACATCCCACACCGGAGGCCCAAGGTGTGGACCCAGGCTCCTTCCACCTCCTTGACACCCCATTTGCCAA  
GGCATCAGAGCTCCAGCAACGGCTCCGGGGCACTCAGGATGGGAGCAAGCACTTTGTGAGGTCCCCCAAG  
GCCAGGGCAAGAACATGGGTATGGGCCACGGGGCCAGAGGTGCAAGAAGCAAGCCTCCACTGGTACCCA  
CCACCATACTGTCTCCCCCTCTGCCCATCTGGCCACCAGCCAGCCCTTCTCCCCACCTGGCACCCCT  
GGGGCACAAGAAACACAAGCATCGAGCCAAGGAGAGCCAGGCGAGCTGCCGGGGCCTGCAGGGCCCCCTG  
GCTGCAGGAGGCTCCACCGTCATGGGGCGGGAGCAGGTGAGGGAGCTGCCTGCCGTGGTGGTGTACGAGA  
GCCAGGCTGGGCAGGCCGTCCAGAGACACGAACACCATCACCACCACGAACATCACCACCATATACCA  
CTTCTATCAGCCCTAG

FIG. 4



IMKGLH\$K\$PAAVCVKRR\$ESPEGDSFAV\$AAWARKGIEEWIGRQRC\$PGVSGP\$RQLRLAGTIGR\$STREL\$VGDVL  
RDTL\$EEEEDDFR\$EVALPPEKTDGL\$SGDEK\$KMERVSEPCPG\$SKQLKFEELQCDV\$MEEDSRQEWTFTL  
YDFD\$NNGKVTR\$EDITSLLHTIYEVVD\$SVNHSPTSSKMLRVKLTVPDGSQ\$KRSVLVNQADLQ\$SARPPRAE  
TKPTEDLRSWEKKQ\$RAPLRFQGD\$SRLEQ\$GCVHHCVDENIER\$NHYLDLAGIENYTSQF\$GPGSP\$VAQKSE  
LPRT\$SNPTRSR\$SHEPEAIHPHRK\$PQGVDPAS\$FHLDTPIAKVSELQ\$RLRGTDG\$SKHFVRS\$PAQOKS  
VGVGHVARGARNK\$PPLGPAIPAV\$PSAHLA\$SPALLPSLAPLGHK\$KHKHRAKESQ\$QGC\$RGLQAPL\$ASGGPV  
IGREHLREL\$PALV\$YESAQGPVQR\$HEHHHHHHHHHHHHHHHHYFYQT

**FIG. 5**

SEQ. ID. NO.: 8

[illegible]

**FIG. 6**



GAATTCATATGCACATTAATAATCCAGGGAGGCCCTCTCTAGGCTATTTGACCCCTAGCTCAAGAAAGGGGGA  
TTAAGAGTCTTACAGGGAGGGATCCAAGGTCAGCATATACAGTTAGTCAGGGACAGTCTGTCTGTGTCTC  
TCTCTCCATGGGGTTTACTATCATTGCTTTCCCTAATGGTTCTTACTCCTGCTTCTTCCTGCTTATTTTT  
CAGCCACAGCGACCCCAAGAAGCTGCTCCAACCCCTGGGACTATGGAGCTCTACAGCTGTAGAGACCACC  
AGGAAGTGGACTGCAGGCCCTTGGCTCTCCATTTCAGATTCTGCAAAGAGATCCTGATGGGTGGGCCAAT  
GGGTCAGGCATCCAGTCAGCTCTGGCTAAGGGGTGAAGGAGTCAGGTGTTACCAACGTGGTGGCAGGGGCC  
ACCTTGAAGCTGTGTTCTGTGCCATGGAAGAAGGAAGGAGGAGGAAGCTAAGCTGGAAGGGAAGGCAGG  
TGATACAGGAAAATAACTATGAGCTTTGCTATAGTGACCACCTTTTCTTCACTCTTGAGCTGTGGCCTT  
AGAAGCTGTGTACCAATGGGAGGCACCTGCATAGTAAGTGTTTCATTTGCTGAATACTTACAGAGGGCTATA  
AGTGGACAAATATGTCCAAAAACACATGAAACACACACCATCAACACTTGCAGATGGTCTCCTTCAGGGAA  
CCTTTCCACACTGGCTCTCCCTCACTGAGCTTTTCTTCTTATCACCTCCCAGTCTAGGCTCCTGGAGTC  
AGTAGTTGGAATCTCAGATGGGAAGAAACCTTAAAAGTCATCTGGTCCAGTATTTTCCAAAGCATGTTCCA  
TGAAGCTGTTTCCAGAAATGGTTTCTGGTCTGGTGAGTTTAAAGAAACCTGCTTATGACGATGCTCTCC  
ATTTAGAGAATCACAAAGCTTGGCTACTCAATGAAAGCTCTGACAAGTCTGCAGGAAAAAAGCTTGTCTTC  
TTTTGGCTAAGCTAGGGCTGCCCCAAGTTTCTCATGGAGTCCTTTCTTGCACATAATAATAGCATCTCACA  
AACCAGTGGTCGGGGGAACCCATTACGGGAAATGCTAATCTTCTGGACCTTCTCTTCTATTTTATAGGTGG  
AGAGGCTGTGTGGTGGTCTGGTTGGCTGCATGTAAGTGAAGGCTTAAAAAGATAGGGGCTTCTT  
TTGCTCTTTTGTTAACAAAGTCTGGGAATAGTCAAAGACTGGTACTGTGACTAGAAAGGCTTCTGATGG  
TTTGGCTCTGTGTTCCCAACCAAATCTCACCTTGAGTTGTAATGATCCCCATATGTCAAGGCAGGATCAG  
TGGGAGGTAATTGAATCATGAGGGCAGTTAATCCCATCTGTTCTTGTGATAGTGAGTTCTCACAGGATCT  
GATGGTTTTATAAGGGGCTTTTCCCTTTTGCTCGGCACCTCTCTCTCTGCTGCTATGTGAAGAGGGACGT  
GTTTGCTTCTCTTCTGTCTATGATTGTAAGTTTCTGAGGCCCTCCCAGCCATGTAGAAGTGTGAGTCAAT  
TAAACCTCTTTCTTTTATAAATTGCCCAGTTCCGGTATGTTCTTGTAGCAGCCTGAGAACGGACTAATATA  
GCTTCTCTGCCAGTGTGAAGAAGAGCAGAGAGGCAGGGCTGGGAGGAGAACAAGGCACCTGCCAAGGAGA  
TGGGGAGGCTGGGCTGGCTTTCCCTCTCTCCAGGCTCACCTGGGAAGCCTGTGCTCTAAACTTGCTCAA  
CATCTGAACCCAGGAGGAGTTGGTGGTACACAAATTCATTCATTCATTCACCCACATCCAGACTGTACTC  
AAGCAGCAGTCTTTTGGCCCCAGTCATCTCCAACCTCATCTTCTCCCTCTACTCCCAAACCATGCTCTCTC  
TGCTCCAGAGCCAGGGGCTCTTTGCTGTTTTCCAAACATCCATGGCAGTCTCCACTTCAGGGCTTTTACA  
TGTGCTGTTCCCTCTGCCTTTAGTACCCAAACAGAATGGCTGGAGACCCAGCCCTAGTTCTTGGGGAAG  
CCCAGCCTCCTCCATCTCATATCTAAGCCCTGAGGCCCTCTGGCTGCTCTGGCTCCCATCTTTCTCTCTG  
CAGGCTATCTCCACTGTGAAGATTGCTGTTGGCCCCATTAAATTACCTGTAGGAGTCATCTTTCTGATTCTT  
TAATTTTGTCTCTGTGCCACTAACCAGGAAGTGGCTAGGATTTTGTCTGAGGGCTTGGAGTAACAGAGGAAG  
AAGAGAGCACTGCCAATCGCATGTTAGAGCTCACTGTCCCAAAGTGAATTGGCCAGTCCCCACCTTGCTG  
GCTGTGCCCTTCTTAGGCCCCATTATCACTCTCTTCTCATGCTGTTTCTTTGAGATCTTTGTTTCCCTTC  
CCTCCAAATGCCTGATATTTTCTCAGGCAGAGTAGTCTAACTTTCCCTCTCTACCCAAACTAGGCCTTC  
AGGCCCTTTAGCAATGCCAAAGCTCACCCAGGGAACATATAAAATAAAGCAACTCCAGGGATCCAGGAGGAAC  
CAGTGGAGACTTGGGAACGATTTTCTCTTTCATATATCCAAGATCGTATTTATTGGCAGTACTCCCTCTCTT  
ATTGACCACAACATGCTCCTGGCTGAGGCTGGGCAGAGAGAGTGTGCTCCTTCCACAGCAGGTGTGATGG  
CACCTGCTATAGGCAGTGCTGTGTTCCGCATTGCATTAGAGATGCAAGTAAGGCAAGAAACCTTGGCTCA  
AGGAGCCCTGGCTCCAGGAGTGAAGCTTACCTCATGCATGATAAAATAAGTGGAGATGGAGGGGGCAGGGAA  
ACCTTGGCTTAATCAGAGCAGAGAAGAGCCCTCAGGTTGGAAGGTCAAGGAGGGCTTCTTTAGGAAATGG  
CATTTGAAGGGGCCAGATCAGATGGCTTAACCTCGGGGACAAGCTTTGGAGCAGCTAACTTGGGTGATGTA  
GGATTTTTTTTTTTTTTAAATCTCCAGCTCTATGTCTGACAGATTTACCTAAACCAGCCTTGTTAAATC  
TCAAGCCCCATGAAACCCGTTTCTGTTATAATCTCTCTCTCTTATCTCTTCTTCTTCTTCTTCTTCTTCT  
TCTTCCCCCAAAGGATAGGAAATCTTCAAAGAAAAAGATGTGTCACTGCAAGTATACAGCCCAAGAAATGG  
GCCAGATAAAATTATTAACACACGAAAAGACAGTGAGTTATGGGGTGGGAAGCCCTCGGAGGCCGAATGG  
CCACCCAGGTAGACAGCATGCTGGTGGCCCCCTGGAGACCCCCCTTCTCAGAGACCTGGACAGACTAACATT  
TTGCCACAAGGCCCATCTCTTGGGTCTCACCCAGATCTGGGTAAAGGTATCATGATCCAATAGCAGATT  
AAGTCCCAGGCGCTGCTGGGCTGGGAGGCACCAAGGTGAAGGTGGAGGGGGCTTTGTGCTCTGGGCTGGA  
CATTTGGGATTTACTCCCCGCAAGACTCAAACTGCATGCAAGTTTATGTTAGTTCTGCTTTTACCTCTTTTT  
GAATGTAAAAAGAAATTCCAAAGGGGAAGGGGATCACTTTTTTCTCATGGAAGAAGAAAGCCAGGACCG  
GTTTAAAGTAAGTAACCAACTTTCTAAGCACTGTGAGAAAGGATGCTCCAAGTTTGTCTTTGATTTAGAGGC  
ACCCTGGTACCAGCAGGGAGGGGTGAGAAAGGCAACAGGAATTCAGACGAATTCATTGCCTTTTGGAG

**FIG. 7-1**



09993966.031003

GGTCTGAAAGAGGGTGCCCACTCCGACTCAGATGCTCAAACCCCTGGCTCCCTCTTACACCTGACCCCCGC  
CGTTCTGCCCCACTTTTTCATGTTCCCTACAGCTCAGGGGTCTTACTTCAGCATTACCCACATTTGATGCT  
GGATCATTGTCTGTTAGGGTGGGGGGCTGCCTTATGCATTGTGGTATGTGTAGCAGCAACCCTGGCCT  
CTACCCACTAGATACCTCCAGGCATTACCAAGTGTCCCCTAGAGGGCAAAATTGTTTGCTGTCAGGTCCTT  
ATGGGATGGAAGAAAGAAAAATGGCCTGTTACCCCTGGTGTAACCTTACTACACTGTTTACTAATTCATCA  
TTTATTGTTTCTTGCCCTATCTTCCCCCTAGGTGAGTGGGAGTTCGATGAGAGTGGCAGTTGTCTATTTTGT  
TCACCGATGTATCTTAGGTGACTAAAACAATGGTTGTCACATGGCTGGCCCTTCATATTTGTTTCCAGATG  
GAAGACTCTCTTTCTAGTGGTGGAAACATTAGTTTTGCACTGTGTTGGGACAACCTGATGTAGTGAAACAA  
GCCTGGGCAATGAAATCAACAGATTGGAGTTCAGTTCCTAATTGGGTCATGGATGAACTTTGTGACCTTGG  
GCAAGTGAGTTCACCTCTCTGAGTTGAATAGGTTCCCTCCTTTCTAGAACAAGTATGAGTCTGCATCAGAG  
AGTGGTTGCGAGGGCTACACATGATGGAGGATGAGGACTGGCACATCAGAAGTACTGAATGAAGAATTGTA  
ACATAAAAAATGACAACAGTAATATATTTTTGTGGTTTTCAGCACTCTTCAAATGAAACCACCTGGCCAACAG  
GATTTTAGTGTACCTGCTTATAACATTAGCCTTCGTTTCCACCAAAAAGGGTGTAAAAAAGGAAGCTTGG  
AACATGAAAGTAAGACACTTGATGAAGAGATTATGACTCTGGGGGGCTGTGAATTCCTAATGTCTCTTTT  
GAGACATGTAGATCTTCCAGAGCGATGCTGCCCAATGCAGTAGCCACTAGCCAAGTGCAAAATGGTCACTTG  
CAATATGGCTAGTCTTTGAGATGTGTTTTAAGTGTAAAAATACACACTGAATTTTAAAGACTTAGCGCAATA  
CAAAGAATGTAATAATATCTCATTTATATCTTGAAATTATACTATTTTGGATATATGGTGTTCCTTGGTGTC  
TTTGGGGACTGGTTCCAGGATCCTAGAGGATACCCAAATCCCCAGATGTCAAGTCCGCTATATAAAATGTC  
CTGTAGTATTTGCATATAACCTACACACATCCTTCTGAATACTTTAAATCATCTCTAGATTCCTTGTAAAT  
CCTAATACAATGTAAATGTTATGTAAATAGTTGTTATACTATATTAAGTTTTTTATTCTTTATTTTGT  
CTGTATTATTTCTTTTTGCATATTTTTCAGTCCACAGATGGTTGATGCCACAGATGTGGAACCTGTGAATAAG  
GAGGGCTGACTGTATTGAGTTAAGCGAAATATATTATTAATATTTTCATCTATTTCTTTTTACTTCTAAAAG  
ATGTGGCGACAAGAAAATTTAAAATTACAAATGTGGCCACATTATATTTCTATTGGGCAGTGCTGCTCTA  
GAGAGTCGGCAAAAAGGGCAGAATGGAGCCTCCATTATACAGATCACAAAACCTGAGCACAGGTAATTCACT  
CCAAAGGTCGGGGCTGGTCTCACTCTGAGCTGCGGGTTTTCTTTTCCCACGCCAGAGCTGCCTGGTGCCAG  
GACGAGCGTAACACGGACCCACAGTGTCCCCAGAAGGGGGCAGGCGTCTGAGAGCCACAAAGGTGGGGTG  
GAATCCCTTGATGTGACCGCCACCATCCCCCTCCCCCGCGGACCTCCCCCGAGAGACCTCCCCAGACA  
AAACAAACAAGACCTTGGGTCTGGCGAACTGCAGCGGGGAGCGGAAACCAAGGAAGATCAAAGACTCAGCG  
GTTACCCCTTCCGGGCCGCGCAGTTTGGCAGCGCGCCCGACCCGGGCGGGCACCCACGGGCCCGGAC  
GAGGAGATCCCAGAGACTGGCTGATAACGGGGCGCTTTGGACATTTGTGCTGCTGCCTGGAGAGGGCTGGGCT  
CACACTGGCCCCGGGTGCGCTGGGGGCTCCTCCTGGACTCCCCAAATAAGAACTAGAGGAGTGCGGTGGT  
GGGGGGCGGGTCACGGGGCGGTAATGAACACTTTCTGCAGAAGGTAGGTCTGCGGAAGACTGGGAAAAGG  
CAGCGCTGCCGAAGCTTGACCTGAGCAGCTAAGGTCTCCGCTCCCGACCTCAGTTTCCCCACCTGTAAAT  
TGGAGCCGCCGAGTCCCGCCCTGCCCGTTTAGAGAGAACGTGGAGCGGAGGGAAGTGACAGTACAGTTAGC  
GATGGCCGGGCTGTTCTGTCCCAATACGCCTCCTGGACAAGCCGCCCGCCGGGTGCGCCAGCCCTGGAGCT  
CGGCCCCCGGCCCCAGACCGCGGCAGGGAGCGCGGACTGTGTCCCGCCCCCTCCCGTCAGCGCCCCGCCCTC  
GTCCCCGCCCATGCCCCGCCCTCCGGCCCCGCCCGCCGCAACCAGCCTTGCTTTGATGCGCCGCACCGG  
CCAATGGGCGCGCGGGGAGGCGCGGGCCGCGCGGGGCTGGGGGCTCGGCGCTCCCGGGCGTC

EXON1: 5' UTR

AGTCGGGCGCGGCGACGGCGGCAGGAGCGCGTCCCGGCGCCGCTCGGGCTCCGCTCGGCTCGGGGGCTG  
CTTCGGGAGGAGAAGAGCCAAGGGAGGCGCCAGGCCCGCGGGCCGGGCG

EXON2: 5' UTR

CATGGCTTAGGGACGCTCCCGGCCGCGCATCCCCAGC

EXON2: CODING

ATGGGGAACTTCACTCCAAGCCG

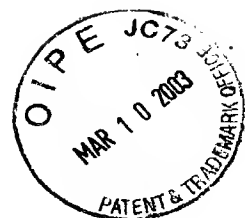
EXON3: CODING

GCCGCCGTGTGCAAGCGCAGGGAGAGCCCCGGAAG

EXON4: CODING

FIG. 7-2





00003066.033003

GTGACAGCTTCGCCGTGAGCGCTGCCTGGGCTCGGAAGGGCATCGAGGAGTGGATCGGGAGACAGCGCTGC  
CCGGGCGGTGTCTCGGGACCCGACAGCTGCGGTTGGCGGGCACCATAGGCCGAAGCACCCGG

EXON5: CODING

GAGCTCGTGGGCGACGTGTTGAGAGACACGCTCAGCGAGGAAGAGGAGGACGACTTTCGGCTGGAAG

EXON6: CODING

TGGCCCTGCCTCCTGAGAAGACTGACGGGCTGGGCAGCGGAGATGAGAAGAAGATGGAGAGAGTGAGCGAA  
CCCTGCCCAGGCTCCAAGAAGCAGCTGAAGTTTGAA

EXON7: CODING

GAGCTCCAGTGCGACGTGTCCATGGAGGAGGACAGCCGGCAGGAGTGGACCTTCACCCTGTATGACTTTGA  
CAACAACGGCAAGGTCACCCGAGAG

EXON8: CODING

GACATCACCAGCTTGCTGCACACCATCTATGAGGTGGTGGACTCCTCTGTCAACCACTCCCCAACATCCAG  
CAAGATGCTGCGGGTAAAGCTCACCGTGGCCCCCGATGGCAGCCAGAGCAAGAGGAGCGTCCTTGTAATC  
AGGCTG

EXON9: CODING

ACCTGCAGAGCGCAAGGCCCGAGCAGAGACCAAGCCCACTGAGGACCTGCGGAGCTGGGAGAAGAAGCAG  
CGAGCCCCGCTCAG

EXON10: CODING

GTTCCAGGGTGACAGCCGCCTGGAGCAGTCTGGCTGCTACCACCATTGCGTAGATGAGAACATCGAGAGGA  
GAAACCACTACTTAGATCTCGCCGGGATAGAAACTACACGTCCCAATTTGGGCCTG

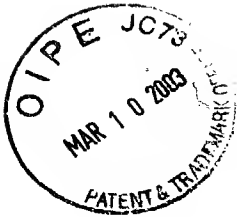
EXON11: CODING

GCTCCCCTTCCGTGGCCCCAGAAGTCAGAACTGCCCCCCCCGCACCTCCAATCCCACTCGATCTCGCTCCCAT  
GAGCCGGAAGCCATCCACATCCACACCCGAAAGCCCCAAGGCGTGGACCCGGCCTCCTTCCACTTCCTTGA  
CACCCCAATCGCCAAGGTCTCAGAGCTCCAGCAACGGCTCCGGGGCACCCAGGACGGGAGCAAGCACTTTG  
TGAGGTCCCCCAAGGCCAGGGCAAGAGTGTGGGTGTGGGCCACGTGGCCAGAGGGGCAAGAAACAAGCCC  
CCTCTGGGACCCGCCATCCCTGCGGTGTCCCCCTCCGCCACCTGGCTGCCAGCCCGGCCCTCCTCCCCTC  
CCTAGCCCCCTCGGGACAAGAAGCACAAGCACCGAGCCAAGGAGAGCCAGCAGGGCTGCCGGGGCCTGC  
AGGCACCACTGGCCTCAGGTGGCCCTGTCTTGGGGCGGGAGCACCTGCGGGAGCTGCCCGCCTTGGTGGTG  
TATGAGAGCCAGGCCGGGCAGCCGGTCCAGAGACATGAGCACCACCACCACCATGAACATCACCACCATTA  
CCACCACTTCTACCAGACATAG

EXON11: 3'UTR

AGCCCCCTCCCCAGGGCCCCACCCTGCCATATGAAGGACCCACCCCCGACACCACAAGGCATTATTATTCT  
ATTAATTATTGTTATTATGATGATTATTGTTATTAATAATTATTGTTACTCCACTAATATTTAGCTAGCCT  
ACATGTAGAAGATCTATGGAAACACAGAACTAACTTTTATTTATATGTTAAAAAAAAAAAAAAAAAAAAA  
AA

FIG. 7-3



05902966 031003

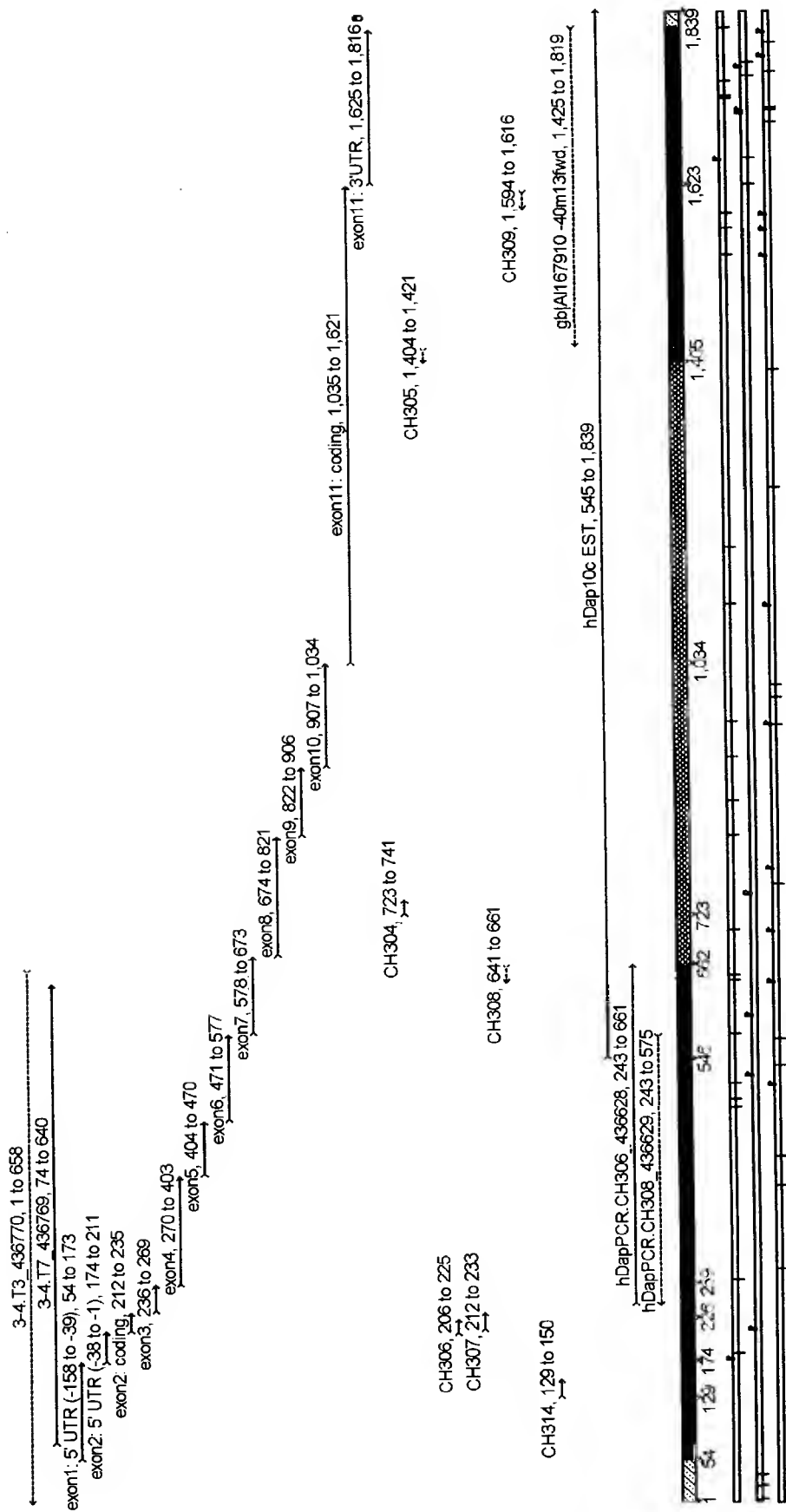


Diagram Key	
	Hole in contig
	Single fragment
	Multiple fragments same direction
	Both strands
	Both strands plus
	Start codon frame 1
	Stop codon frame 2
	Bumps on fragments
	show motifs, hollow
	rectangles
	show features

FIG. 8



Wnt

mNkd

Dishevelled

**Red = negative regulator**  
**Green = positive regulator**

axin

APC

GSK-3

$\beta$ -catenin

$\beta$ -catenin

lef-1

**c-Myc**  
**Cyclin D1**  
**WISP-1**

FIG. 9

jc658 U.S. PTO  
03/10/03

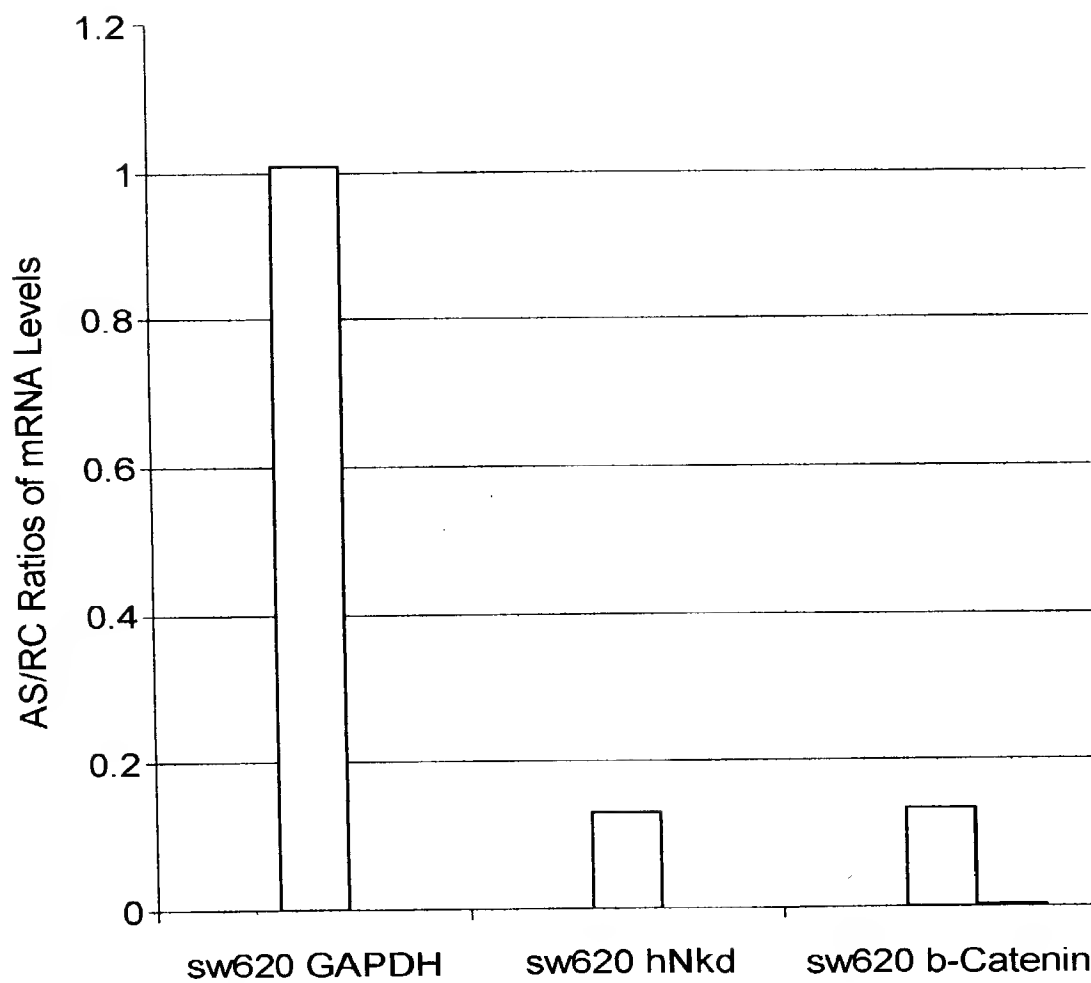
The figure displays a Western blot and a schematic diagram of the Wnt signaling pathway. The Western blot on the left shows protein levels for mNkd and GAPDH across six lanes: Wnt3a-8hrs, Con-8hrs, Wnt3a-19.5hrs, Con-19.5hrs, Wnt3a-27hrs, and Con-27hrs. mNkd levels are high in the Wnt3a-treated lanes and low in the control lanes. GAPDH levels are consistent across all lanes. The schematic on the right illustrates the Wnt signaling pathway, showing Wnt binding to mDvl, which releases β-catenin. β-catenin then promotes mNkd expression, which in turn inhibits mDvl, forming a negative feedback loop.

FIG. 10

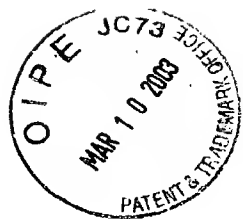


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Ratios of hNkd and  $\beta$ -Catenin mRNA  
Levels in SW620 Cells Treated with  
 $\beta$ -Catenin AS/RC Oligos



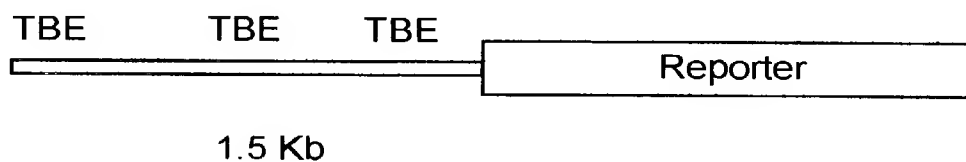
**FIG. 11**



00000000.031003

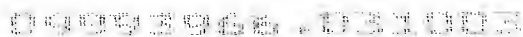
Using hNkd Promoter---Reporter Expression  
Construct to Screen for Small Molecule  
Inhibitors that Down Regulate the Expression  
of the Reporter

Our Strategy:



TBE: TCF binding Element (CTTTGA/TA/T)

**FIG. 12**



**FIG. 13**



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hNkd inhibits Wnt-1 activated luciferase reporter

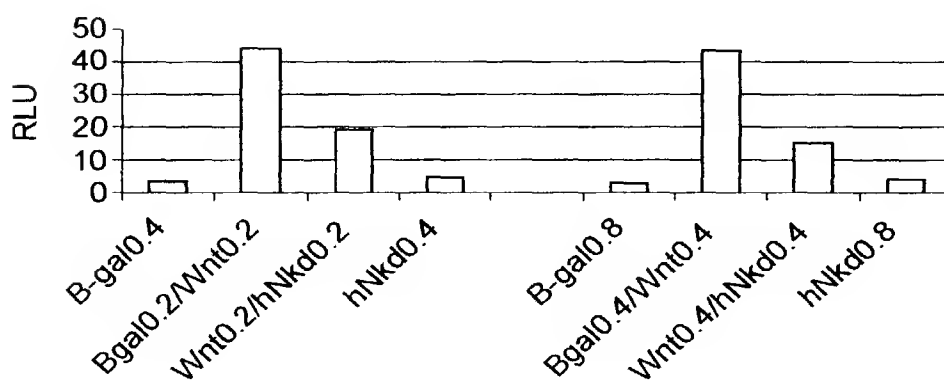
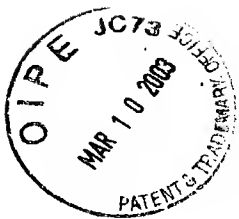


FIG. 14





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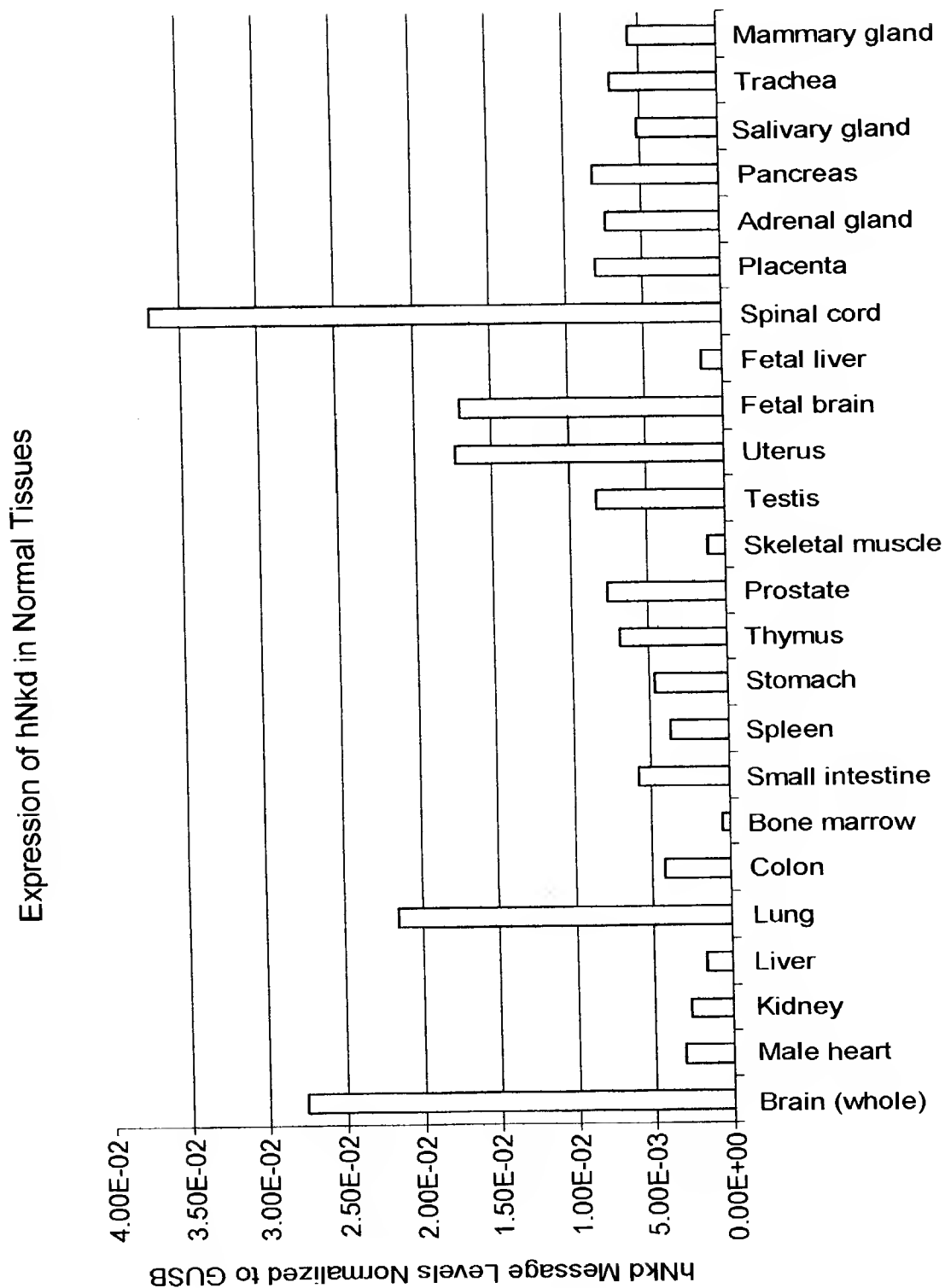


FIG. 15

